NATURAL RESOURCES CONSERVATION SERVICE
PACIFIC BASIN AREA
CONSERVATION PRACTICE STANDARD

UPLAND WILDLIFE HABITAT MANAGEMENT

(Hectare, Acre)
CODE 645

DEFINITION

Creating, maintaining or enhancing areas for food and cover for upland wildlife.

PURPOSE

Several conservation practices may be applied, individually or in combination, to accomplish one or more of the following wildlife management objectives:

- Provide a variety of foods for thedesired kinds of wildlife species;
- Provide adequate water for the desiredkinds of wildlife species;
- Provide a variety of cover types for thedesired kinds of wildlife species;
- Arrange habitat elements in the proper amounts and locations to benefit the desired wildlife species; and,
- Manage the habitat to achieve a viable wildlife population within the home range.

CONDITIONS WHERE PRACTICE APPLIES

On lands that are suitable for the kinds of wildlife habitat needed, for the desired wildlife species, or within the range of the desired wildlife species.

CRITERIA

General

Food, water, and cover requirements for wildlife may be provided by habitat elements that are part of other existing or proposed management systems or land uses. The habitat elements fulfilling the food, water, and cover requirements and their management must be identified in the management plan.

For the desired kinds of wildlife, specify the type, amount, and distribution of vegetation required, and the management condition(s) of each necessary for the survival and reproduction of a sustained population, refer to wildlife interpretations in Section II of the USDA-NRCS Field Office Technical Guide (FOTG), where developed for Pacific Basin offices.

A wildlife upland habitat management plan should be developed to effectively implement this practice. The plan development and management options to achieve wildlife habitat management will be based on a wildlife habitat appraisal or evaluation. The appraisal or evaluation procedure will be used for individual fields, home range areas, habitat types, or natural communities; and will provide an overall evaluation for the entire property or operating unit. Conduct a wildlife habitat Inventory and evaluation to determine the quality rating of the habitat. The quality rating may be good, fair, or poor, depending on the total number of points given to an area in the evaluation.

Additional Criteria for Habitat Elements

The following are examples of habitat elements that may be considered when assessing wildlife habitat: (1) food, (2) cover, (3) water, and (4) interspersion and distance. These habitat elements are required by wildlife to achieve a viable, sustainable population.

1. Food

1. Two factors to consider: type and amount.
2. Type of Food:
3. Fruits Grain or seed crops
4. Domestic grasses and legumes
5. Woody Native grasses, forbs and legumes
6. Other essential sources of food such as prey, carrion, insects, etc.

Amount of Food:

1. Quantity
2. Accessibility
3. Variety
4. Seasonal availability

2. Cover

Examples of wildlife cover include nesting, fawning, loafing, resting, escape, travel lanes, and thermal. There are two factors to consider: type and amount.

Type of Cover:

1. Grain or seed crops
2. Domestic grasses and legumes
3. Trees and shrubs
4. Limestone forest
5. Native grasses, forbs and legumes
6. Snags, and downed woody material
7. Rocks, cliffs, caves and talus slopes
8. Man made structures

Amount of Cover:

1. Quality
2. Size
3. Shape
4. Variety
5. Seasonal availability
6. Successional slopes

3. Water

In addition to drinking water, wildlife may need water for other, uses as well. Water use depends on:

1. Quality
2. Quantity
3. Accessibility
4. Seasonal Availability

4. Interspersion and Distance

This is often important for the dispersal of offspring and in considering territorial behavior. Travel corridors play an important role between fragmented habitats. Some species, such as Moorhens, may travel from one island to another in search of new territory, food, or nesting sites.

Grasses and/or legumes:

1. Shrubs
2. Trees
3. Water
4. Openings
5. Corridors

Additional Criteria for Arranging Habitat Elements

The benefits of arranging habitat elements are discussed and elaborated in PLANNING CONSIDERATIONS under the titles Habitat Diversity, Habitat Linkages, Daily and Seasonal Ranges, Limiting Factors, Plant Communities, and Habitat Appraisal and/or Evaluation.

Additional Criteria for Managing Habitat

The wildlife habitat evaluation may indicate certain habitat elements may be weak or missing. Management or development of habitat to provide for, or strengthen, the weak or missing elements may be accomplished by the implementation of the following conservation measures:

1. Managing Existing Food or Cover
2. Woodland openings
3. Disking
4. Wildlife population management
5. Food plots
6. Planting
7. Grasses, legumes and forbs
8. Native tree/shrub establishment
9. Water Modify livestock or irrigation water facilities for wildlife.

Population controls, which are the responsibility of the state, federal wildlife agencies, and the landowner, may be necessary to protect and maintain certain habitats.

PLANNING CONSIDERATIONS

All land uses provide habitat for wildlife, but there is great variability in the quality (condition) of the land to support wildlife. A land use may provide one or more of the habitat elements necessary for a particular species during specific seasons of the year.

Manipulation of habitat may impact more than the desired kinds of wildlife. These possible

effects will be evaluated and taken into consideration during the planning process. This practice may also be used to promote the conservation of declining species, including candidate species, species of concern, threatened species, and endangered species. Where published, for each island, this information is in FOTG, Section II.

Pacific Basin standards to consider when planning wildlife habitat improvement include: Conservation Cover (327); Critical Area Planting (342); Field Border (386); Filter Strip (393A); Hedgerow Planting (422); Prescribed Grazing (528A); Contour Stripcropping (585); Riparian Forest Buffer (391); Tree/Shrub Establishment (612); Use Exclusion (472); Windbreak/Shelterbreak Establishment (380) and; Wetland Wildlife Habitat Management (644).

The following questions should be asked for each wildlife upland habitat management plan developed:

1. Does the plan provide specific assistance for the species of fish or wildlife the landowner is trying to help?
2. Are the recommended practices technically feasible?
3. Does the participant understand the plan, including the obligations, practice standards and specifications, installation schedule, and maintenance requirements?
4. How will adjacent land use activities impact the project site?
5. Does the plan encourage the use and development of native plants and habitats? Does the plan encourage plant diversity?
6. For management and planning purposes, refer to wildlife interpretations in FOTG, Section II (if locally developed) and the Threatened and Endangered Species information also within FOTG, Section II.

Habitat Diversity

Habitat diversity is dependent on the size and distribution of the habitat areas, it is the interspersion or intermixing of the various wildlife habitat area components. Numerous habitat types in small units provide a maximum amount of diversity or edge; however, this could be detrimental to some wildlife species, which require larger blocks of habitat to sustain viable populations. Larger blocks of habitat are more beneficial to some native songbirds and other species of wildlife; they are necessary to avoid habitat fragmentation. The amount of habitat diversity providing food is generally correlated with higher wildlife population numbers.

Habitat Linkages

Linking fragmented habitats or cover types with corridors may greatly increase the use of an area by the species under consideration. In general, the larger the width of the corridor, the more species will use it. Through the use of corridors, smaller blocks of habitat can be linked together to avoid the problems, mentioned previously, which some species encounter when large blocks of habitat are missing.

Daily and Seasonal Ranges

Each individual animal has a home range and in this home range, all the requirements for its livelihood must be found. Food must be present, and in sufficient quantity and quality, having the structure and composition to be useable for the specie's daily and seasonal needs. Water, for drinking and other purposes, must be available in adequate amounts throughout the year.

Limiting Factors

Some conditions will limit population growth within the home range of each animal. Remove or improve that condition and numbers will increase to the point where another condition sets the limit. These conditions can be grouped into two categories:

1. Those which can be influenced or changed, such as the vegetative elements of habitat, which impose limits through food supply, protection, and reproduction; and,
2. Those which are difficult or cannot be influenced such as climate or topography.

Man can help eliminate water as a limiting factor. Drinking water for wildlife, though limited by climate and precipitation levels, can be collected and stored for use by manmade structures like ponds and dams.

Plant Communities

Knowledge of the local plant communities, the plant species in the successional stages, and the associated animals is essential for providing accurate wildlife management assistance. Many wildlife species prosper at some early plant successional stage, while others are dependent on climax communities.

Where wildlife management is an objective, the food and cover value of the planting can be enhanced by using an approved habitat evaluation procedure to aid in selecting plant species and providing for other habitat requirements necessary to achieve the objective. A list of species with food and cover requirements and a listing of plants, useful to wildlife, for food and cover are found in Section II of the FOTG. Help is also available from the federal and local fish and wildlife agencies.

Habitat Appraisal/Evaluation

The property, operating unit, habitat type or home range area should be appraised using form PBWH-1, Wildlife Habitat Inventory and Evaluation Sheet or similar form. The evaluation will result in a quality rating, ranging from poor to good, and should consider the type, amount, and distribution of habitat elements required. A soil suitability rating for wildlife, an essential factor in this form, can be found in Section II of the FOTG under Wildlife Interpretations.

If the evaluation indicates a habitat quality rating of poor, or fair, for a given habitat quality parameter, then alternatives will be recommended that will result in the necessary changes in the habitat quality parameter, or their management, to bring the rating up to a rating of good. For example, the size of a wildlife area can be increased, and travel corridors and drinking water can be provided to improve the rating.

If the evaluation indicates that a given habitat quality rating is good, then alternatives will be recommended to preserve or maintain the existing habitat in its present state, or towards optimizing the habitat quality level. Various combinations of criteria, described under "Additional criteria for habitat elements", may be used to preserve or improve an area for the food, water, and cover components of an ecosystem.

WATER QUANTITY

Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Effects on the volume of downstream flow or charge to aquifers that might cause undesirable environmental, social, or economic effects.

Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

WATER QUALITY

Effects on erosion and the movement of sediment, and soluble and sediment attached substances that would be carried by runoff.

Effects on the movement of dissolved substances below the root zone and to ground water.

Effects on wetlands or water related wildlife habitats.

Effects of pesticides and nutrient use on surface and ground water quality..

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared in accordance with the criteria of the standard and shall describe the requirements for applying the practice to achieve its intended use. Appropriate job sheets, drawings, and narrative statements in the conservation plan will be used to record the items needed to carry out this practice. These documents are to specify the requirements for installing the practice, such as the kind, amount, or quality of materials to be used, or the timing or sequence of installation activities. Other applicable Pacific Basin standards should be used when appropriate, i. e., Conservation Cover (327), Brush Management (314), and

tree planting, etc., to meet identified habitat deficiencies.

In the end, the quality rating of the habitat should be compared to the quality criteria in Section III of the FOTG.

OPERATION AND MAINTENANCE

Actions will be carried out to ensure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation) such as Pacific Basin practice standard Prescribed Burning (338); mowing; and repair and upkeep of the practice (maintenance), for example, the replacement of dead trees or shrubs.

This practice will be inspected periodically and restored, as needed, to maintain the stated purpose. Additional operation and maintenance requirements will be developed on a site-specific basis to assure performance of the practice as intended.

REFERENCES

1. Habitat Criteria for Use in Habitat Inventory and Evaluation: USDA-NRCS National Biology Manual, section 513.13.
2. Determine Suitability for Elements of Wildlife Habitat: USDA-NRCS National Biology Manual, section 512.23.
3. FACT SHEET, "Trees and Shrubs that provide Food for Birds in the Mariana Islands.